



TEACHING PRACTICE AND EXPLORATION BASED ON OBE CONCEPT

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ABSTRACT

The core of OBE educational concept is to design and implement teaching based on learning results. This paper will analyze from the following questions: what are the learning outcomes to be achieved by students, why should students achieve such learning outcomes, how to effectively help students achieve these learning outcomes, and how to know that students have achieved these learning outcomes.

KEYWORDS: OBE, Teaching Design, Learning Outcome.

INTRODUCTION:

OBE (Outcome-Based Education), originated from the United States, was first applied to the basic Education reform in the United States and Australia, and formed a relatively complete theoretical system in the 1990s. The core of OBE educational concept is to design and implement teaching based on learning achievement. In the teaching process closely around the following four questions: to make clear what students to achieve learning outcomes? Why should students be allowed to achieve such learning outcomes? How can we help students achieve these learning outcomes effectively? How do you know if students have achieved these learning outcomes?

Complex function and integral transformation is an important basic course for science and engineering students in our university. Its theory and method are widely used in various engineering fields. In the past, the teaching of "complex function and integral transformation" was mainly based on inculcation of knowledge, which ignored the students' main position in study, their study enthusiasm was not high, and the teaching effect was not ideal.

Based on this, we learn from the advanced OBE education concept, while focusing on improving students' learning experience, we actively explore the teaching reform of "complex variable function and integral transformation" guided by students' learning achievements.

ADVANCED EDUCATIONAL IDEAS APPLICATION:

Introduction of advanced OBE education concepts. Guided by the students' learning achievement, based on the students' cognitive law and centered on the students' learning process, the teaching reform of "complex variable function and integral transformation", which emphasizes on the process evaluation, is explored. Enriching teaching and learning methods. With the help of network information technology, integrating MOOC, Khan Academy, School Teaching Platform and other network resources, integrating the rich teaching methods such as mixed teaching, flipping classrooms, etc. The introduction of Group Cooperative Learning, reading report, we chat discussion and other forms of learning, to attract students' learning attention, improve students' learning initiative, cultivate students' learning ability. Respect students' learning interests. To give students the initiative in learning, encourage the accompanying teaching, pay attention to students' learning experience, design cases and set up students' learning log, affirm students' learning process in teacher-student interaction, and improve students' self-confidence in learning, build a heated classroom to enhance the students' learning ability. Based on the concept of OBE education, starting from the goal of cultivating talents and the requirement of students graduation, the learning achievement of students is made clear. The Teaching Syllabus and examination syllabus of complex function and integral transformation are revised, the teaching content is reorganized, the teaching progress is reasonably arranged, and the relationship between the teaching contents of each chapter, section and class and graduation requirements is determined.

In order to cultivate the practical talents with social responsibility, innovative spirit, special knowledge, practical ability and healthy body and mind, a set of practical teaching model is explored. Using information technology, enriching teaching methods, reconstructing classroom teaching contents, changing existing single knowledge structure, infiltrating mathematical culture education, to construct a mathematical culture system based on the historical background, the evolution of concepts, ideas, historical and scientific values, the cognitive process and personality of mathematicians, and to pay attention to the learning results of students Realizing the transformation from knowledge classroom to ability classroom.

To explore an effective way of learning organization and evaluation, which is mainly based on students' autonomous learning, aims at the formation of students' ability, and uses process evaluation as a means to enable students to learn, learn and enjoy learning.

TEACHING CONTENT DESIGN:

Based on the analysis of mathematical culture and the abundant historical materials provided by the history of mathematics, the cultural system of "complex function and integral transformation" is constructed and organically combined with the textbook knowledge To form an open, interactive teaching content system, teaching content design as shown in figure 1.

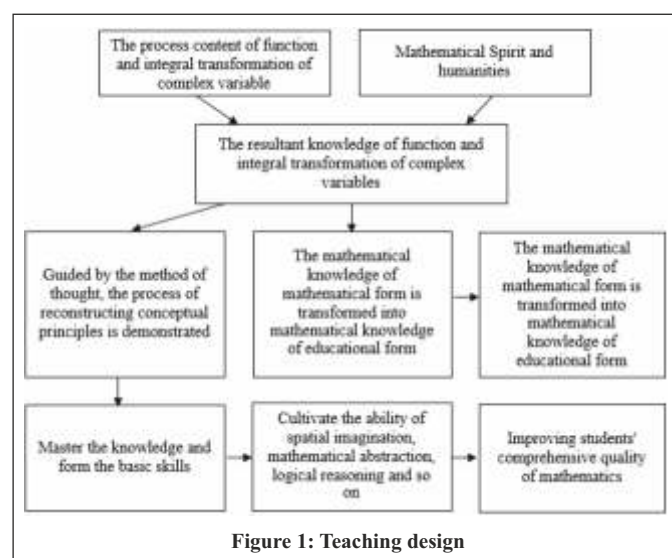


Figure 1: Teaching design

The design of teaching method and teaching means depends on the characteristics and nature of teaching content. According to the comprehensive characteristics of the above teaching content, the following teaching strategies are designed: culture-driven teaching strategy. The teaching is driven by the ideological and Cultural Connotation of "complex variable function and integral transformation", which can help students form a more complete knowledge system and promote the formation and development of their overall cognitive structure. The unified teaching strategy of concept. Taking the concept of "complex variable function and integral transformation" as the core of teaching, students should first master the basic structure, and then develop their understanding of the whole content according to the logical structure between the internal knowledge. Analogical teaching strategy. Analogy is an important method of mathematical discovery or invention. It is indispensable to the establishment of many concepts, the emergence of important methods, and even the birth of new theories or new branches of mathematics. Function of complex variable and integral transformation is a course offered in the second year of university. It has some important analogical relationship with students' study in higher mathematics. In the process of teaching, the use of analogy, from the old knowledge of the transition to new knowledge, so as to achieve a positive transfer of learning. Construction of teaching resources and teaching evaluation. Recording micro-video, teaching case library, online testing, and so on, to achieve the students' mathematical literacy,

mathematical calculation, mathematical applications and other soft skills. According to the teaching platform or social platform for communication, students are required to complete the corresponding time node of the corresponding module of the online test. Through the network platform, the teachers know the situation of each student and the common problems in the students' work, and give appropriate guidance and correction.

ESTABLISH AN EVALUATION AND EVALUATION SYSTEM:

Establish A multi-level evaluation system, pay attention to the process of evaluation, dilute the results of evaluation, clear evaluation criteria. Through the institutionalization of the daily or periodic assessment, evaluation, to urge students to acquire knowledge and enhance their ability. The main forms can include online and offline tests, face-to-face communication, extra-curricular outreach, small project research, team work results, essay writing, classroom performance, book reports, etc.

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